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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/734,377	12/12/2003	Joc R. Weiss	S01.12-1009/STL 11567	9761
27365	7590	07/27/2007	EXAMINER	
SEAGATE TECHNOLOGY LLC C/O WESTMAN CHAMPLIN & KELLY, P.A. SUITE 1400 900 SECOND AVENUE SOUTH MINNEAPOLIS, MN 55402-3319			CAO, ALLEN T	
		ART UNIT	PAPER NUMBER	
		2627		
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		07/27/2007	PAPER	

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

<b>Office Action Summary</b>	<b>Application No.</b>	<b>Applicant(s)</b>
	10/734,377	WEISS ET AL.
	<b>Examiner</b>	<b>Art Unit</b>
	Allen T. Cao	2627

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --  
**Period for Reply**

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

#### Status

- 1) Responsive to communication(s) filed on 26 April 2007.
- 2a) This action is FINAL.                    2b) This action is non-final.
- 3) Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

#### Disposition of Claims

- 4) Claim(s) 1-40 is/are pending in the application.
- 4a) Of the above claim(s) 13-23, 29 and 33-40 is/are withdrawn from consideration.
- 5) Claim(s) \_\_\_\_\_ is/are allowed.
- 6) Claim(s) 1-12, 24-28 and 30-32 is/are rejected.
- 7) Claim(s) \_\_\_\_\_ is/are objected to.
- 8) Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

#### Application Papers

- 9) The specification is objected to by the Examiner.
- 10) The drawing(s) filed on \_\_\_\_\_ is/are: a) accepted or b) objected to by the Examiner.  
 Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
 Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

#### Priority under 35 U.S.C. § 119

- 12) Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) All    b) Some \* c) None of:
1. Certified copies of the priority documents have been received.
  2. Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
  3. Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

#### Attachment(s)

- 1) Notice of References Cited (PTO-892)
- 2) Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) Information Disclosure Statement(s) (PTO/SB/08)  
 Paper No(s)/Mail Date \_\_\_\_\_
- 4) Interview Summary (PTO-413)  
 Paper No(s)/Mail Date. \_\_\_\_\_
- 5) Notice of Informal Patent Application
- 6) Other: \_\_\_\_\_

1. Applicant's election with traverse of the species of figure 13, indicating claims 1-12, 24-28, and 30-32 to read thereon, in the reply filed on 9111/06 is acknowledged.

The traversal is on the ground(s) that (1) claims 1-40 are all consistent with and applicable to each of the species, (2) the subject matter of each of claims 1-40 is either explicitly depicted or plainly applicable to the depicted species, (3) many of the claims have overlapping scope, and (4) there is no serious burden. This is not found persuasive because all are in error.

Concerning (1) and (2), the species of elected figure 13 is clearly limited to the features of the air bearing surface.

Concerning (3), this is simply in error. All sliders are associated with some suspension, and conversely, all suspensions are associated with some slider. This does not constitute "overlap". Concerning (4), there clearly is a serious burden produced by a disclosure and claim set presenting 14 different species, broken down into two different groups of slider and suspension features.

The requirement is still deemed proper and is therefore made FINAL.

2. Claims 13-23, 29, and 33-40 are withdrawn from further consideration pursuant to 37 CFR 1.142(b), as being drawn to a nonelected species, there being no allowable generic or linking claim. Applicant timely traversed the restriction (election) requirement in the reply filed on 9111/06.

3. The following is a quotation of the first paragraph of 35 U.S.C. 112: The specification shall contain a written description of the invention, and of the manner and

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process of making and using it, in such full, clear, concise, and exact terms as to enable any person skilled in the art to which it pertains, or with which it is most nearly connected, to make and use the same and shall set forth the best mode contemplated by the inventor of carrying out his invention.

4. The following is a quotation of the second paragraph of 35 U.S.C. 112: The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

5. Claim 30 is rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

Claim 30 recites that the "means for exploiting" can be located on "any face of the slider".

The disclosure is clearly limited to an aerodynamic feature that is located on the trailing end of the slider surface facing the medium.

Alternatively, this claim is indefinite and misdescriptive under 112 par.2 for not accurately reciting the location involved.

6. Claims 2, 4-11, 27, 28, and 30-32 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

In claims 2, 27, and 28 the term "minimize" is a relative term which renders these claims indefinite. The term "minimize" is not defined by the claim, the specification does

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not provide a standard for ascertaining the requisite degree, and one of ordinary skill in the art would not be reasonably apprised of the scope of the invention.

7. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(a) the invention was known or used by others in this country, or patented or described in a printed publication in this or a foreign country, before the invention thereof by the applicant for a patent.

8. Claims 1, 24, 27, and 30-32 are rejected under 35 U.S.C. 102(a) as being clearly anticipated by KOHIRA et al (6,628,480).

Note especially figures 1, 2, and 15. KOHIRA et al shows an assembly with a suspension (20) which includes a gimbal (22) mounting a slider (1) having a vertical stabilizer (12) located at the trailing end, the vertical stabilizer includes two opposing sweepback surfaces (not numbered). The aerodynamic surface of the slider further includes longitudinal fins (7,8).

9. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and

the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains.

Patentability shall not be negated by the manner in which the invention was made.

10. Claims 2-12, 25, 26, and 28 are rejected under 35 U.S.C. 103(a) as being unpatentable over KOHIRA et al (6,628,480).

KOHIRA et al shows a slider and suspension substantially as claimed.

KOHIRA et al differs in not specifying any details of: (A) the gimbal (re claims 2 and 28), or (B) the head (re claims 25 and 26).

Concerning (A), it would have been obvious to one of ordinary skill in the art at the time the invention was made to utilize any known gimbal. The motivation is as follows: one of ordinary skill in the art would use any known gimbal were no specific structure was disclosed. Note that Applicant acknowledges that known gimbals provide for some rotation of the slider (see page 6 lines 18-20 of the specification). These claims do not define the amount of movement involved.

Concerning (B), it would have been obvious to one of ordinary skill in the art at the time the invention was made to utilize an MR read head in KOHIRA et al. The motivation is as follows: KOHIRA et al simply does not specify what type of head is used. One of ordinary skill in the art would utilize any known head where none was specified. Note that Applicant acknowledges that MR heads are known and commonly used in this environment.

#### ***Response to Arguments***

11. Applicant's arguments filed 4/26/07 have been fully considered but they are not persuasive.

Applicant argues that:

"Claim 30 was rejected alternately under paragraphs 1 or 2 of §112 based on an objection to the recitation, in relevant part, that the means for exploiting the ambient

fluid flow comprises an aerodynamic surface on any face of the slider. The applicants respectfully submit that any face of the slider may have an aerodynamic surface, and that any such aerodynamic surface may be comprised in the means for exploiting the ambient fluid flow. This does not limit other faces of the slider from also comprising aerodynamic surfaces that are also comprised in the means for exploiting the ambient fluid flow."

The Examiner respectfully points out that it is unclear that the "means" can be exploiting the fluid to the bottom surface or side surface of the slider (any surface of the slider which includes the top, bottom and side surfaces of the slider). Therefore, the Examiner maintains that the 112 rejection is still proper.

Applicant also argues that:

Claims 2, 27, and 28 were rejected under §112, 2nd paragraph on the rationale that "minimize" is a relative term. The applicants respectfully submit that "minimize" is not a relative term; that the specification is replete with relevant disclosure that support use of this term in relation to the subject matter of these claims; and that a person of ordinary skill in the art would readily comprehend the definite and distinct subject matter of these claims and the supporting disclosure in the specification. The applicants further point out that neither the claims nor the specification indicates any limitation on the degree to which a skew angle may be minimized or reduced, and that the subject matter of these claims is thereby not limited by any relative degree. "

The Examiner respectfully points out that the term "minimize" is vague and indefinite because it lacks metes and bounds of the invention. Therefore, the Examiner maintains that the rejection is still proper.

Applicant argues that the 102 rejection as set forth in the above Office Action is not proper basis for rejection because "Kohira et al makes no mention of a yaw axis, of yaw rotation, or of yaw in any context, or of a slider being rotatably connected in any context".

The Examiner respectfully points out that the "yaw" axis here is z-axis (vertical axis) and the slider of Kohira et al does have a z-axis and it does inherently rotated

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about its z-axis. Office notice has been taken that the slider rotates about its z-axis (yaw axis) is well known (see all references recently cited in 892 of this Office Action).

Therefore, the Examiner maintains that the 102 rejection is proper.

Applicant further argues that:

"Kohira also does not anticipate claim 27 because, for example, it does not disclose a means for exploiting an ambient fluid flow to minimize a skew angle of the slider relative to the ambient fluid flow. In fact, Kohira makes no mention at all of a skew angle. Referring again to the passage from Kohira cited above that purports to describe figure 15, it makes reference only to pitch, and it even apparently suggests, if any meaningful description might be extracted from it, that the gimbal can bend in a direction that is "only" related to a pitch angle, not to any other rotational axis, which would explicitly exclude the possibility of a slider being rotatably connected about a yaw axis or of minimizing a skew angle of the slider. Kohira therefore does not anticipate either of claims 1 or 27. In fact, other than the trivial fact that Kohira discloses a slider, the Office Action does not make specific mention of any of the subject matter of claim 27 in reference to the rejection of said claim, and therefore manifestly does not particularly point out a minimally sufficient rationale on which a rejection might properly be based."

Kohira et al discloses a fluid flowing through the surface of the slider for minimize the pitch angle which is inherently as the skew angle. Therefore, the Examiner maintains that the rejection is proper.

Applicant further more argues that:

"In the Office Action, claims 2-12, 25, 26 and 28 were rejected under 35 U.S.C. §103(a) with reference to Kohira. The applicants submit that Kohira does not suggest these claims because Kohira does not disclose or suggest all the elements of their respective parent claims, i.e. claims 1 and 27, as discussed above ....."

The Examiner maintains that it would have been obvious to one of ordinary skill in the art at the time the invention was made to utilize any known gimbal. The motivation is as follows: one of ordinary skill in the art would use any known gimbal were no specific structure was disclosed. Note that Applicant acknowledges that known gimbals

provide for some rotation of the slider (see page 6 lines 18-20 of the specification).

These claims do not define the amount of movement involved; and it would have been obvious to one of ordinary skill in the art at the time the invention was made to utilize an MR read head in KOHIRA et al. The motivation is as follows: KOHIRA et al simply does not specify what type of head is used. One of ordinary skill in the art would utilize any known head where none was specified. Note that Applicant acknowledges that MR heads are know and commonly used in this environment.

**12. THIS ACTION IS MADE FINAL.** Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the mailing date of this final action.

13. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Allen T. Cao whose telephone number is (571) 272-7569. The examiner can normally be reached on Mon - Thurs (7:30 - 6:00).

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If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Hoa T. Nguyen can be reached on (571) 272-7579. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.



Allen Cao  
Primary Examiner

AC

July 23, 2007